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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,770	02/15/2005	Kazuyuki Mikubo	Q86329	3434

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WASHINGTON, DC 20037

EXAMINER
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DATSKOVSKIY, MICHAEL V

ART UNIT	PAPER NUMBER
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2835

MAIL DATE	DELIVERY MODE
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07/18/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/524,770

Applicant(s)

MIKUBO ET AL.

Examiner

Michael V. Datskovskiy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-23 and 25-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-23 and 25-30 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6 and 31-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 06/15/2007.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 32 is objected to under 37 CFR 1.75(c) as being in improper form because it depends on multiple dependent claims 3, 4. See MPEP § 608.01(n). Accordingly, the claim 32 can not been further treated on the merits. Claim 32 is also indicated as being depended on claims 6 through 31, which includes a canceled claim 24.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 1, 2 and claims 3, 4, 6, 32-35 as depended on claims 1 or 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1: In line 4 claim indicates that a liquid cooling pump is disposed on a surface of the base, while in lines 8, 9 claim now describes said liquid cooling pump as integrated in a single unit of a metal, which is contradictive. It is also not clear, what difference is between said pump being embedded and being integrated.

With respect to claim 2: It is not clear what difference is between said pump being embedded and being integrated. To claim the base as a single metal unit is also wrong, because it looks that the base consists of two parts: the bottom part and the cover, which together create cooling channels in the base. With respect to claim 34: it is not

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clear what applicant meant by claiming the air cooling fin group and the base being formed in a unit.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, 6, 31-35 as best understood by examiner are rejected under 35 U.S.C. 102(b) as being anticipated by Batchelder (Previously cited US Patent 6,019,165.

Batchelder teaches a cooling apparatus for cooling a heat generating electronic device 2, (Embodiments shown in Figs. 2 or 3 or 4, wherein a liquid cooling unit 20 is a single piece of metal comprising an embedded liquid pump 54 and a plurality of cooling fins creating a plurality of cooling channels 62), said cooling apparatus comprises: the liquid cooling unit 20 discharging heat generated by the heat generator 4 with a coolant 50; and an air cooling unit having four cooling fin groups 28 for exhausting heat discharged by the liquid cooling unit 20 in atmosphere, wherein the air cooling unit is stacked onto the liquid cooling unit 20 forming a cooling unit. Batchelder teaches furthermore said cooling apparatus according to claim 1, wherein the liquid cooling unit comprises: a heat absorption surface 24 absorbing heat by one of method of contacting and joining with the heat generator; a flow path 60, in which the coolant 50 flows, formed along the heat absorption surface 24; and a liquid cooling pump 54 embedded (integrated) in a base

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22 for circulating the coolant within the flow path 60, said base being a single metal unit, wherein the air cooling unit comprises an air cooling fan 30 for flowing air to the air cooling fin groups 28. Batchelder teaches furthermore said cooling apparatus according to claim 2, wherein the flow path is a closed loop with a circulation method, and in a part of the closed loop, a micro channel structure 52 having a smaller cross section area than a cross section area of the flow path 60 is formed.

***Allowable Subject Matter***

6. Claims 7-23, 25-30 are allowed.

***Response to Arguments***

7. Applicant's arguments with respect to claims 1-4, 6, 31-35 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V. Datskovskiy whose telephone number is (571)272-2040. The examiner can normally be reached on 8:30am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayprakash N. Ganghi can be reached on (571)272-3740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael V Datskovskiy  
Primary Examiner  
Art Unit 2835

07/12/2007